

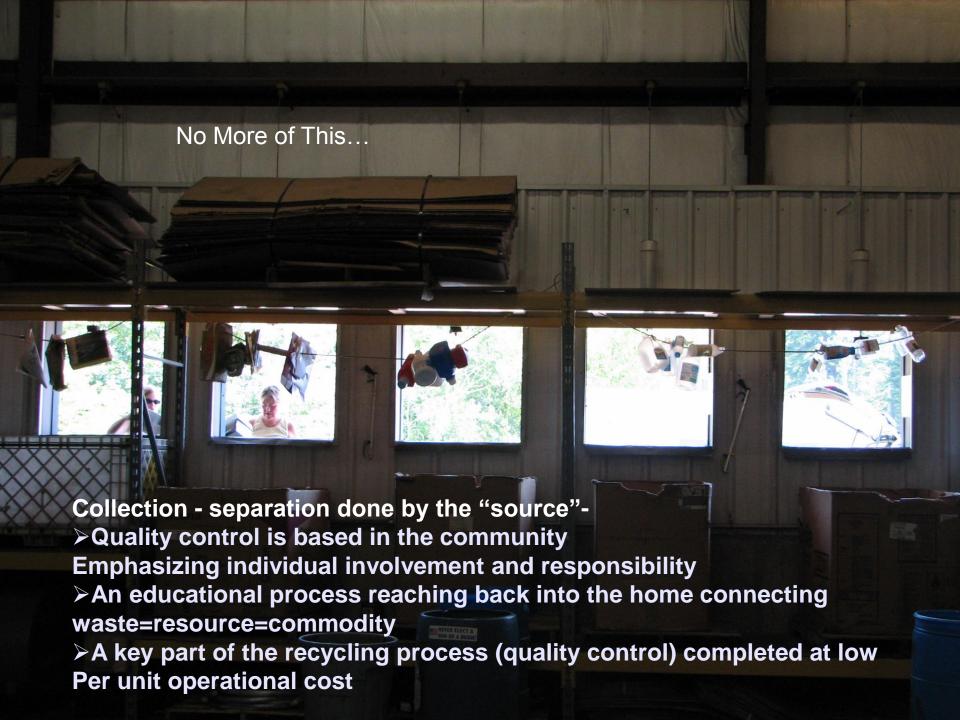
"Single Stream" "Zero-Sort®" "Single Sort" "Co-mingled"

- Overview of single stream recycling
- What is it?
- History and prevalence in Maine, nationally
- Industry trend
- Benefits, drawbacks, costs, logistics of implementation
- Providers offering this service in Maine,
- Location of SS processing and other SS transfer/drop off facilities
- Performance to date

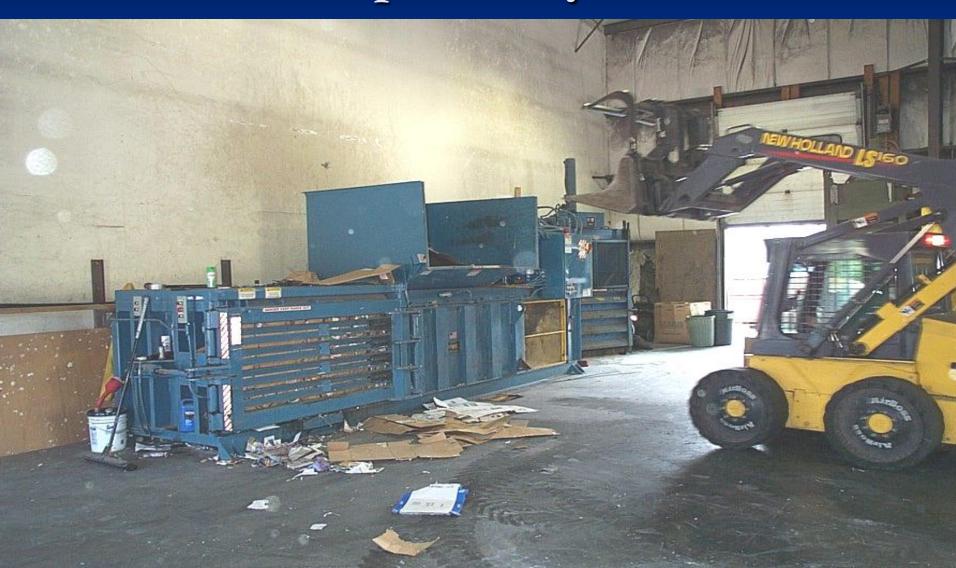
Single Stream - What is it? It is a 'collection efficiency' strategy

- Single Stream where all recycled materials are collected and combined in a single container, truck, compactor or trailer to be transported to a large centralized facility for separation and processing for market –
- Way to reduce the cost of the collection and aggregation of recycled materials
- More convenience for residents and commercial sources and thus in theory increasing the number of participants in a recycling program more people recycling more stuff
- While collection costs decrease, <u>processing costs increase significantly</u>, necessitating high volumes of materials and large scale facilities
- In Maine it has been accompanied by devices unrelated to single stream such as expanding the number and types of items that can be recycled





Regional or Local Level Processing Replaced by—





"and this.... unscrambling the egg"



And this...



And Curbside Sort is Replaced...



By this...



Still Relatively New to Maine

- Kick off for *ecomaine* program June 2007
- Approximately 70 Maine municipalities
- 2 entities marketing the service

ecomaine - Portland

- Municipal corporation 21 owner communities- several associate and contracting communities as well
- 3.8 million dollar renovation in 2007 from dual stream to "single sort"
- Offers receiving/processing /marketing services
- Waste disposal facility services as well

(FCR) Casella Waste Systems, Inc.

- Publicly traded corporation
- 2 processing facilities in Auburn, MA and Charlestown,
 MA
- Principal recycling transfer facility in Maine is at the West Bath transfer station and recycling center
- Recently opened a new aggregation and transfer facility for "zero sort" recycling materials in Hampden
- Offers containers, compactors, trucking, curbside collection as well as processing and marketing of recyclables
- Also is a full service waste management company

Both entities are energetically marketing their services statewide



State Perspective or Concerns... Ground Level versus "Big Picture"

"Single stream" - a very different approach to the way materials recovery has been managed in Maine for the last twenty years which emphasized:

1. Local control or say in the operations, goals, objectives, strategic planning, through various forms of regional association

What happens to local control?

2. Local source separated collection combined with dispersed regional processing,

What happens to regional processing, what happens if we lose regional processing?

State Perspective or Concerns



3. Access, convenience, reasonable costs, guarantee quality control, product movement to market

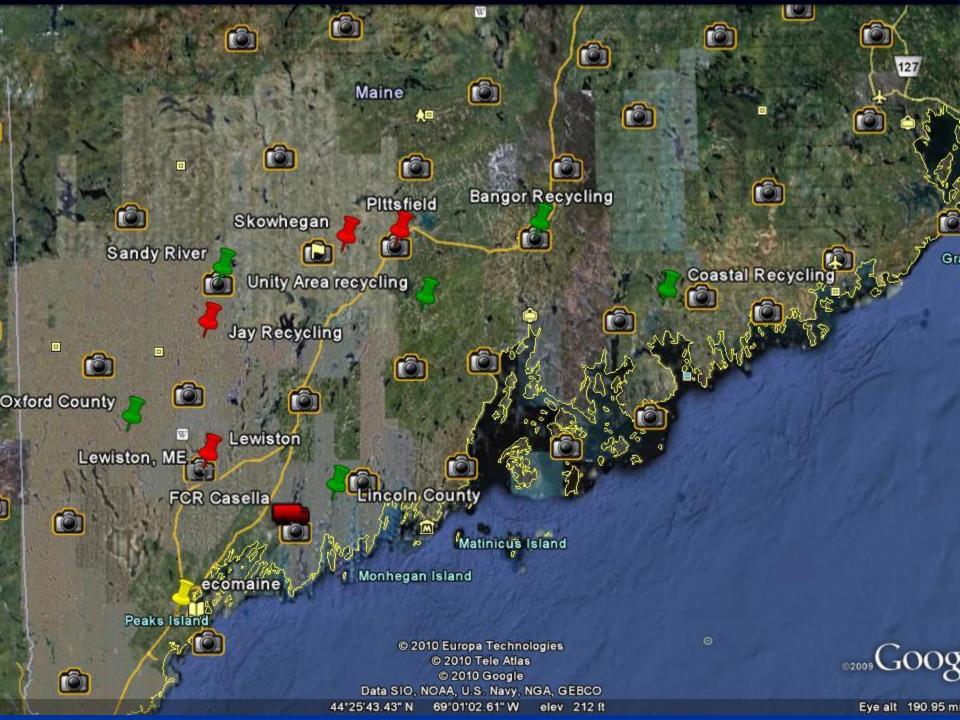
What happens to the "Maine" brand in the marketplace? Where is the emphasis on quality control?

4. Relatively stable pricing and revenue in the sometimes fluctuating commodities market.

State Perspective or Concerns



- 5. Is there a lack of competition with just 2 vendors? (probably temporary)
- 6. Does switching to single stream limit future options? (one way street) what if's -what if one or the other current vendor goes away, -what if the terms offered in some future contract are bad for the local program and bad for recycling?
- 7. Will there come a time when there are more disposal options than recycling options?



Big Picture

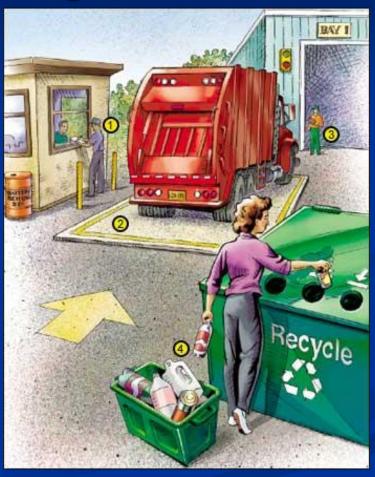
- State recycling rate "stuck" although some recent encouraging signs
- Up to now, lack of big structural changes coming out of Augusta, neither changes in law nor funding
- Lack of comprehensive local or regional plans for achieving more waste reduction, reuse, composting, recycling
- Steady but slow adoption of recycling incentives that encourage more people to recycle more stuff
- Will single stream change this picture?

National industry trend - Large scale centralized processing in conjunction with dense collection systems

- In Maine -wide variability in contract offering and proposals, community by community
- In 2007 & early 2008, contracts offered tied to markets
- Up market revenue↑ sharing
- Down market↓ cost sharing
- Most current contract offerings are fixed price
- Sometimes in conjunction with other types of services

Municipal Policies That Can Effect Measurement of Single Stream Program Performance

- •Number of Materials Accepted at Transfer Station or thru curbside collection
- •Curbside collection
- •Waste Ban Policy
- •Waste Ordinance
- •PAYT Program
- Mandatory Recycling
- •Recycling Committee



Why Make The Switch?

Primary Motivations & Perceived Benefits:

- 1. Systems change-ecomaine- biggest winners under the new program
- 2. Desire for change
- 3. Cost cutting
- 4. Ease for residents
- 5. Collection efficiency- curbside programs
- 6. No longer responsible for processing and marketing
- 7. Security of long term arrangement for recycling

The Positives for Single Stream

- 1. The implementation of single stream in conjunction with other recycling incentives to recharge a stagnating system
- 2. The use of compaction equipment for the collection and transportation of recycled materials
- 3. Good news for curbside programs with strong route density and short turn around transport
- 4. Using the introduction of single stream as an opportunity to re-energize recycling education and promotion
- 5. Community attitudes
- 6. Positive geographic/demographic factors
- 7. Acceptance of cost/benefit of single stream
- 8. Seamless change in the eyes of the public

Negatives For Single Stream

- 1. Strength of existing programs with a history of relatively stable costs and revenues
- 2. Negative geographic/demographic factors
- 3. Cost projection issues with switching costs, hauling costs, and the current unstable global economic condition- will the rises in transportation and processing costs be offset by commodity prices and sufficient volume
- 4. Misuse of drop off recycling facilities lack of sufficient supervision
- 5. Lack of other recycling incentives
- 6. If your present recycling program is not working-single stream alone is not magic bullet

The Need for a Disincentive Program & Alternative Recycling Programs

Municipal recycling programs, as well as the two processing facilities interviewed, see Single Stream programs as a *gateway program*, which helps to usher in additional recycling programs such as Curbside Collection and PAYT programs, which are most productive and effective.

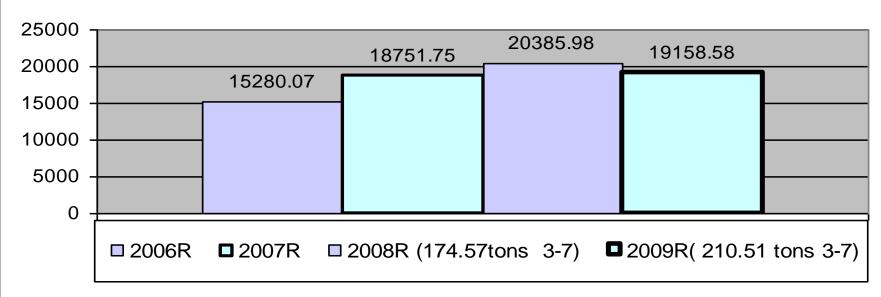
Qualifications

- Only 2 full years of data- no conclusions on effects on recycling rates and MSW generation rates
- Most programs saw recycling rates increase, but others saw increases in MSW generation
- Can't separate effects of single stream from PAYT and curbside, expanded materials accepted, other variables including global economy
- Recession 2008 saw a slight decline in overall recycling tonnages but the decline is in the commercial collection
- Municipal tonnage numbers up significantly (20%) in 2008 from 2007

Do the numbers tell us anything?

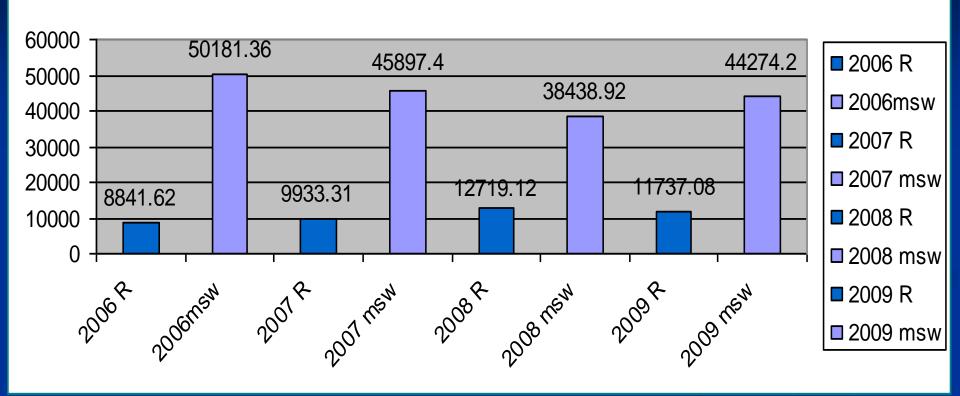
Recycling tonnage refers only to common household recyclables, fiber/containers - includes available 2009 returns

The Recycling tonnage for 18 *ecomaine* communities, using 'Single Sort Recycling', from 2006-2009 increased 25%, or 3878.51 tons



The biggest gainers during this time period were Scarborough and South Portland, both went to automated curbside pickup and North Yarmouth that adopted PAYT; together the 3 programs Increased over 2,200 tons

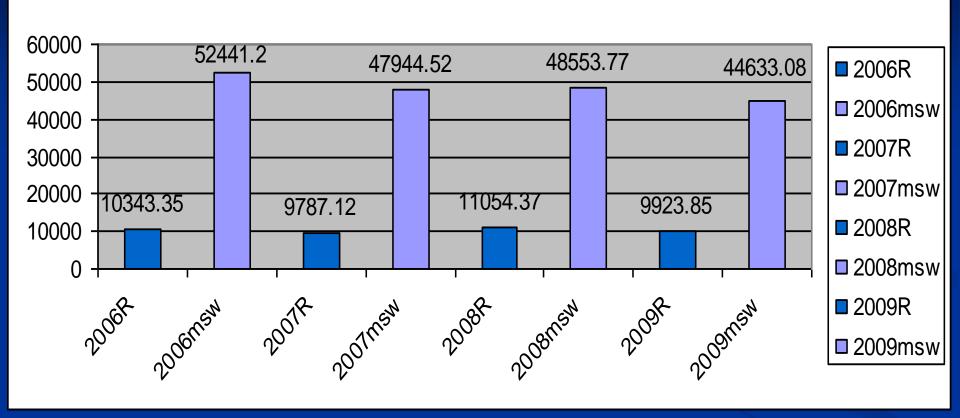
21 single stream programs 2006-2009 estimated total pop. 122,000 to 125,000



An increase of 2,895.5 tons; or 33% increase between 2006 and 2009 2/3 of the total increase came from just 3 programs; Bath, (PAYT) North Yarmouth, (PAYT) Scarborough (curbside) 1/3 in just one program; Scarborough

- average 445 lbs. per household across the 21 programs

21 source separated programs 2006-2009 estimated 2009 total pop. 99,000-102,000



A decline of 420 tons or 4% between 2006 and 2009

One program declined by 300 tons, accounting for almost 3/4 of the total decline

No significant structural changes to any programs

- Average 461 lbs. Per household across all 21 programs

Lyman - population 4,234

It was the site of the initial *ecomaine* single stream 'remote drop off' pilot project
A total increase of 132% in recyclables from 2004 -2006: negligible increase from '06 to '09 (<1%)

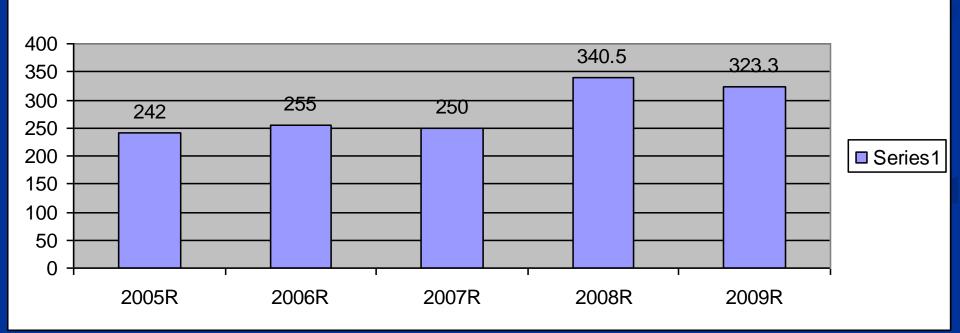


Monmouth region – Population 5,336

One of the first stand alone drop off programs to sign with ecomaine

Purchased new self compacting trailer for est. \$70,000-self haul to eco





So What?

- Programs that switch to single stream appear to see some level of "bump up" in recycling tonnages exclusive of other changes or adding materials...
- What credit goes to Public Education or PR efforts that accompany the change, how do you measure their effect?
- Will that bump turn into a sustained rising curve -more people recycling more stuff or is a one time event?
- □ Need a lot more data points...
- Exclusive of other changes, programs that were at low to very low levels of recycling saw more dramatic improvement from single stream but were not turned into "success stories"
- Programs with good recycling numbers saw some modest increases.

Is Single Sort in one form or another, here to stay?

- ecomaine and FCR Casella are fully committed to the single sort system.
- The potential and proven benefits include
- ☐ Increased ease and convenience to residents
- Increased participation
- Increased recycling reduces disposal costs
- Wider range of materials: most plastics, most paper grades
- ☐ Far less collection/labor intensive: no handling past the collection container until processor
- □ Compaction, if used, results in fewer trips
- ☐ For curbside, faster collection of materials, collection and transportation savings

Drawbacks to single sort

- Zero or much reduced revenue from the sale of recyclables at a time of a sustained market high Combined price average for the 3 common fiber grades corrugated cardboard/newspaper/mixed paper over \$100.00 per ton baled. Revenue per ton exceeds per ton cost avoidance for disposal.
- Single Sort currently offering "\$0" per ton" or a revenue sharing" -\$25 to +\$25 per ton depending on market (current average \$5.00 per ton).
- Single Sort reduces but does not eliminate all recycling costs, may raise transportation costs, subject to constant increase and market driven spikes
- Communities still need to be involved in quality control process cannot leave it all up to the Materials Recovery Facility (MRF), must keep MRF "honest" about levels of contamination, residuals etc., not passing on higher costs and increased disposal at mills.
- □ Goes against 20 years of source separation/quality education of residents which would be lost- hard to swim back upstream

Single Sort - Here are some questions program managers may consider.

- □ Is my program currently receiving revenue for its recyclables?
- ☐ If so what are my revenues versus costs?
- □ What would be my revenues versus costs of single stream?
- □ Is there an additional community benefit (public good will) in continuing to be able to report revenues, and to continuing with the source separated system?
- □ Is there a compelling reason to change the current program? Such as going to curbside collection, mandatory recycling or PAYT? Or an external community reason such as a budget crisis?

More questions

- Once my program is committed to providing material into a centralized single sort facility,
- □ How will single stream facilities react to changes in the marketplace?
- □ Will my program end up sharing the costs of processing?
- Will materials from MRFs carry the same reputation in the marketplace as Maine products currently enjoy?
- People still have to overcome their resistance to the basic separation of trash from recyclables, If you already have a high recycling rate what will be the increase in participation? Will the percentage really up-tick, will more people recycling more stuff?

Final thoughts on quality and costs and the role of local programs...

- "Municipal governments are responsible for organizing collection and processing of recyclables, they are the key to ensuring that our recycling system operates to its highest potential.
- this does not mean that responsible communities can only seek the lowest possible cost for recycling... Rather, they need to find the most cost-effective way to achieve their goals.
- Rather than operating as totally independent and unconnected cost centers, recycling participants need a unifying guide setting clear and achievable goals for the system as a whole.
- Communities that accept processing that produces poorly sorted materials, even if there are markets for them; undermine the health of the recycling system." ... Excerpts from

Susan Kinsella; *Single Stream Recycling Best Practices Manual and Implementation Guide*

